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## Study of associations between principal food allergens by graph based analysis in a large sample of fruit allergic patients using an allergen microarray

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The study of cross reactivity in allergy is a key to both understanding the allergic response of many patients and providing them with a rational treatment. In the present study, protein microarrays and co-sensitization graph approach were used in conjunction with an allergen microarray immunoassay. This enabled us to include a wide number of proteins and a large number of patients and to study sensitization profiles among members of the LTP family. Fourteen LTPs from the most frequent plant food induced allergies in the geographical area studied were printed into a microarray specifically designed for this research. 212 patients with fruit allergy and 117 food tolerant pollen allergic subjects were recruited from seven regions of Spain with different pollen profiles and their sera were tested with allergen microarray. This approach has proven itself to be a good tool to study cross reactivity between members of LTP family and could become a useful strategy to analyze other families of allergens.

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## Impact of Acetaminophen, Ibuprofen or antibiotics uptake during the first 18 months of life on the development of allergy between the ages of 18 months and 5

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The impact of acetaminophen and ibuprofen uptake in infancy on the development of allergy in children remains a matter of controversy. In addition, some studies suggest an influence of antibiotics on the development of the disease. In this study, we used the data collected in the context of the CRISTALL prospective study to determine the effects of acetaminophen, ibuprofen and antibiotic uptake during the first 18 months of life on the development of allergy between the ages of 18 months and 5. 300 children were recruited and followed from birth to age five. They were given a clinical exam at birth and at 2, 6, 12, 18, 24, 36, 48 and 60 months of age with skin prick tests at 6, 18, 36 and 60 months. Plasma levels of total and allergen specific IgE were also determined at birth and at 2, 6, 18, 36 and 60 months of age. Statistical analyses were performed to determine the presence or absence of association between acetaminophen, ibuprofen and antibiotics uptake and the development of allergy by 18 months, 3 years or 5 years of age. Based on the allergic/non-allergic classifications established at 18 months and 3 years, we found that allergic children had a higher use of acetaminophen over the first 18 months of life than non-allergic children. Analysis of the results based on the classification established at age 5 no longer showed a significant impact of acetaminophen uptake alone on allergy. However, it showed that the combined used of acetaminophen, ibuprofen and antibiotics was associated with a risk of developing allergy, although the association was not statistically significant. This study confirms that more research needs to be done to provide a clear answer on the matter of acetaminophen, ibuprofen and antibiotics use in infancy and its impact on the development of allergy.

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